

## Refine Search

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Terms	Documents
L26 or L27	4

Database:

US Pre-Grant Publication Full-Text Database  
 US Patents Full-Text Database  
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 EPO Abstracts Database  
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 IBM Technical Disclosure Bulletins

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10/823,441



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DATE: Tuesday, April 10, 2007    [Purge Queries](#)    [Printable Copy](#)    [Create Case](#)

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	<i>DB=PGPB,USPT; THES=ASSIGNEE; PLUR=YES; OP=OR</i>		
<u>L28</u>	l26 or L27	4	<u>L28</u>
<u>L27</u>	(driv\$ adj signal\$) and attitud\$ and (power\$ with door\$.clm.	2	<u>L27</u>
<u>L26</u>	(driv\$ adj signal\$) and attitud\$ and (power\$ with door\$.ab.	3	<u>L26</u>
	<i>DB=PGPB; THES=ASSIGNEE; PLUR=YES; OP=OR</i>		
<u>L25</u>	(driv\$ adj signal\$) and attitud\$ and (power\$ with door\$.ab.	0	<u>L25</u>
<u>L24</u>	L22 and distal\$	1	<u>L24</u>
<u>L23</u>	L22 and (dista\$ with end\$)	1	<u>L23</u>
<u>L22</u>	20050228579	1	<u>L22</u>
	<i>DB=PGPB,USPT; THES=ASSIGNEE; PLUR=YES; OP=OR</i>		
<u>L21</u>	(vehic\$ with door).ab. and (attitud\$ with sens\$) and (vehic\$ with door).clm.	6	<u>L21</u>
<u>L20</u>	(vehic\$ with door).ab. and (attitud\$ with sens\$) and (vehic\$ with door).clm.	6	<u>L20</u>

<u>L19</u>	(vehicle with door).ab. and (attitud\$ with sens\$)	8	<u>L19</u>
<u>L18</u>	(vehicle with door).clm. and (attitud\$ with sens\$)	16	<u>L18</u>
<u>L17</u>	(vehicle with door)lclm. and (attitud\$ with sens\$)	37607	<u>L17</u>
<i>DB=USPT; THES=ASSIGNEE; PLUR=YES; OP=OR</i>			
<u>L16</u>	(vehicle with door) and (attitude with sens\$)	67	<u>L16</u>
<u>L15</u>	L5 and (attitude with sens\$)	4	<u>L15</u>
<i>DB=PGPB,USPT; THES=ASSIGNEE; PLUR=YES; OP=OR</i>			
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<u>L13</u>	L10 and attitude.	0	<u>L13</u>
<u>L12</u>	L10 and attitude.ab.	0	<u>L12</u>
<u>L11</u>	L10 and attitude.clm.	0	<u>L11</u>
<u>L10</u>	L5 and (vehicle adj door).clm.	66	<u>L10</u>
<u>L9</u>	L6 and attitude	5	<u>L9</u>
<u>L8</u>	L6 and attitude.ab.	0	<u>L8</u>
<u>L7</u>	L6 and attitude.clm.	2	<u>L7</u>
<u>L6</u>	L5 and door.ab.	211	<u>L6</u>
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<u>L4</u>	vehicle and door.clm. and sensor and aperture and control\$ and signal\$ and vov\$	0	<u>L4</u>
<u>L3</u>	vehicle and door.clm. and sensor and aperture and control\$ and signal\$	505	<u>L3</u>
<u>L2</u>	L1 and control\$ and signal\$	5	<u>L2</u>
<u>L1</u>	(power\$ adj source) and sensor and attitude and motion and (mov\$ adj2 load) and door.clm.	5	<u>L1</u>

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L21: Entry 3 of 6

File: USPT

Jan 14, 1992

US-PAT-NO: 5079832

DOCUMENT-IDENTIFIER: US 5079832 A

TITLE: Equipment for attaching and detaching doors to a vehicle body

DATE-ISSUED: January 14, 1992

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ozawa; Shougo	Hanno			JP
Yamamoto; Toru	Hidakamachi			JP
Watanabe; Yasuji	Kobe			JP
Obata; Mituyoshi	Kobe			JP
Yomota; Masahiko	Nishinomiya			JP
Maeda; Shizuo	Kobe			JP

US-CL-CURRENT: 29/712; 29/709 29/718, 29/787, 29/790

## ABSTRACT:

This invention relates to an apparatus for automatically attaching and detaching such exterior parts as doors, a trunk, and a bonnet, etc. which are openably mounted to a vehicle body by way of such tightening device as pins, bolts, etc. on the assembling line of a vehicle. In a door attaching and detaching apparatus the position of pins for openably attaching a door on a vehicle body is detected by a pin position detection mechanism, and the position of the pin drawing out and inserting mechanism is compensated according to the position thereof. Then, the pins can be drawn out from and inserted in the vehicle body and the door by the corresponding pin drawing out and inserting mechanism. Furthermore, the position of the door holding mechanism is compensated according to the position of the pins detected by the pin position detection mechanism, thereby causing the door to be held by the corresponding door holding mechanism. In this case, the pin drawing out and inserting mechanism and the door holding mechanism are separately installed independently and are individually driven to actuate.

2 Claims, 79 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 48

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L21: Entry 3 of 6

File: USPT

Jan 14, 1992

US-PAT-NO: 5079832

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Obata; Mituyoshi	Kobe			JP
Yomota; Masahiko	Nishinomiya			JP
Maeda; Shizuo	Kobe			JP

US-CL-CURRENT: 29/712; 29/709, 29/718, 29/787, 29/790

## CLAIMS:

What is claimed is:

1. A door attaching and detaching apparatus for openably attaching a door to a vehicle body by way of pins, comprising:

pin position detecting means for detecting the pin position of a pin used for attaching the door to a vehicle body frame;

pin drawing out and inserting means for drawing out said pin from said vehicle body frame and door and inserting said pin in said vehicle body frame and door, the position of said pin drawing out and inserting means being dependent on the position of the pin detected by the pin position detecting means; and

door holding means for holding the door, said door holding means being driven independently from said pin drawing out and inserting means, the position of said door holding means being dependent on the position of the pin detected by said pin position detecting means.

2. A door attaching and detaching apparatus for openably attaching a door to a vehicle body by way of pins, comprising:

pin drawing out and inserting means for drawing out a pin from a vehicle body frame and door and inserting said pin in said vehicle body frame and door, said pin drawing out and inserting means comprising pin position detecting means for detecting the pin position of said pin used for attaching the door to said vehicle body frame, said pin position detecting means comprising

movable sensing claw means for engagement with a shaft portion of said pin, wherein the position of said pin is determined from a travelling distance of said sensing claw means, the position of said pin drawing out and inserting means for drawing out said pin from said vehicle body frame and door and inserting said pin in said vehicle body frame and door being dependent on the position of the pin detected by the pin position detecting means; and

door holding means for holding the door, said door holding means being driven independently from said pin drawing out and inserting means, the position of said door holding means for holding the door being dependent on the position of the pin detected by said pin position detecting means.

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**Search Results - Record(s) 1 through 5 of 5 returned.**

☐ 1. Document ID: US 20050228579 A1

L2: Entry 1 of 5

File: PGPB

Oct 13, 2005

PGPUB-DOCUMENT-NUMBER: 20050228579

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050228579 A1

TITLE: Attitude detection method and apparatus for initial motion control

PUBLICATION-DATE: October 13, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Urman, Robert	Schaumburg	IL	US
Citta, James W.	Lombard	IL	US
Roddy, Warren D.	Skokie	IL	US

US-CL-CURRENT: 701/124

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	RWC	Draw De
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☐ 2. Document ID: US 20050046978 A1

L2: Entry 2 of 5

File: PGPB

Mar 3, 2005

PGPUB-DOCUMENT-NUMBER: 20050046978

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050046978 A1

TITLE: Vehicle accessory module

PUBLICATION-DATE: March 3, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schofield, Kenneth	Holland	MI	US
DeWard, Joshua L.	Holland	MI	US

Whitehead, Peter J.	Holland	MI	US
Lynam, Niall R.	Holland	MI	US

US-CL-CURRENT: 359/876

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 3. Document ID: US 20030169522 A1

L2: Entry 3 of 5

File: PGPB

Sep 11, 2003

PGPUB-DOCUMENT-NUMBER: 20030169522  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030169522 A1

TITLE: Vehicle accessory module

PUBLICATION-DATE: September 11, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schofield, Kenneth	Holland	MI	US
DeWard, Joshua L.	Holland	MI	US
Whitehead, Peter J.	Holland	MI	US
Lynam, Niall R.	Holland	MI	US

US-CL-CURRENT: 359/876; 248/481

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 4. Document ID: US 7188963 B2

L2: Entry 4 of 5

File: USPT

Mar 13, 2007

US-PAT-NO: 7188963  
DOCUMENT-IDENTIFIER: US 7188963 B2

TITLE: Vehicle accessory module

## PRIOR-PUBLICATION:

DOC-ID	DATE
US 20050046978 A1	March 3, 2005

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 5. Document ID: US 6824281 B2

L2: Entry 5 of 5

File: USPT

Nov 30, 2004

US-PAT-NO: 6824281

DOCUMENT-IDENTIFIER: US 6824281 B2

TITLE: Vehicle accessory module

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMIC	Draw. De
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Terms	Documents
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L31: Entry 1 of 3

File: USPT

Jan 30, 2001

US-PAT-NO: 6178699

DOCUMENT-IDENTIFIER: US 6178699 B1

TITLE: Open/close control system for a vehicle slide door

DATE-ISSUED: January 30, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kawanobe; Osamu	Kanagawa			JP
Shimura; Ryoji	Kanagawa			JP

US-CL-CURRENT: 49/360; 49/31

## ABSTRACT:

An open/close control system for a vehicle slide door includes in one embodiment, a drive source, e.g., a motor, a slide door opening/closing mechanism, a clutch for transmitting a drive force of the drive source to the opening/closing mechanism interruptively, movement signal generator for generating a signal dependent on the moving direction of the slide door, and slide door controller for controlling the drive force to be transmitted to the opening/closing mechanism by controlling the drive source and the clutch. The slide door controller stops the operation of the drive source and thereby stops the slide door, declutches the clutch to allow the slide door to be movable, detects a movement of the slide door caused by its weight by use of an output signal of the movement signal generator, and determines an inclination of the vehicle on the basis of the detection result.

16 Claims, 17 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 16

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